

## CHAPTER 9. PROVING AND VALIDATION TESTS

### SECTION 1. BACKGROUND

**1551. GENERAL.** Parts 121 and 135 of the Federal Aviation Regulations (FAR) require the Administrator of the Federal Aviation Administration (FAA) to evaluate each applicant's ability to conduct operations safely and in accordance with the applicable regulations before issuing an operating certificate to the applicant. The FAR also require the Administrator to determine that a certificate holder is capable of conducting operations safely and in compliance with applicable regulatory standards before authorizing the certificate holder to serve an area or route. The structured methods used by the FAA to determine an applicant's capabilities are proving and validation tests. This chapter contains direction and guidance to be used by inspectors for conducting these tests.

**NOTE:** The term, "applicant," as used in this chapter, means either a candidate applying for an operating certificate or a certificate holder requesting additional operating authority.

**1553. PROVING TESTS.** FAR 121.163 and 135.145 require applicants seeking authority to operate certain types of aircraft in revenue service to prove their capability before being granted operating authority. These applicants must conduct proving tests. Proving tests consist of a demonstration of the applicant's ability to operate and maintain an aircraft new to the operator's fleet or the applicant's ability to conduct a particular kind of operation, such as domestic, flag or commuter. The applicant is required to operate and maintain the aircraft to the same standards required of a certificate holder that is fully certificated and that holds the necessary authorizations. Proving tests should not be confused with aircraft certification tests, which are tests conducted by the aircraft manufacturer to demonstrate the airworthiness of the aircraft.

*A. Part 121 Requirements.* FAR 121.163 requires an applicant to successfully complete proving tests before the FAA may authorize the operation of each aircraft type.

*B. Part 135 Requirements.* FAR 135.145 requires an applicant to successfully complete proving tests before the FAA may authorize the operation of each type of turbojet aircraft or each type of aircraft for

which two pilots are required for operations under visual flight rules (VFR).

**1555. VALIDATION TESTS.** FAR 121.93, 121.113, and 135.13(a)(2) require an applicant to demonstrate the capability to conduct operations over proposed routes or areas in compliance with regulatory requirements before being granted FAA authority to conduct these operations. The FAA requires the applicant to successfully complete validation testing in the following circumstances: (1) before being authorized to add any areas of operation beyond the 48 contiguous states to operations specifications (OpSpecs) paragraph B50 and, (2) before being issued any of the OpSpecs paragraphs listed in figures 3.9.8.1. through 3.9.8.3. that authorize special means of navigation. Though proving and validation tests satisfy different requirements, both tests may be conducted simultaneously when appropriate.

**1557. TESTING METHODS ACCEPTABLE TO THE ADMINISTRATOR.** Applicants must demonstrate to inspectors that they can conduct flight and maintenance operations to the standards required for revenue service. Operations could range from the relatively simple to the more sophisticated. A simple operation may involve an operator that possesses Caribbean authority, but is requesting authorization to expand operations to South America. The operator may only have to demonstrate that it has the proper documentation to conduct the expanded operations. For the more sophisticated operations, such as Category II (CAT II), Category III (CAT III), and extended-range operations with two engines (ETOPS), acceptable means that applicants may use to demonstrate compliance have been published in advisory circulars (AC). Examples are AC 120-28, Criteria for Approval of Category III Landing Weather Minima, and AC 120-42, Extended Range Operation With Two-Engine Airplanes (ETOPS). (For a list of applicable AC's, see figure 3.9.8.4.) In recent years, however, operators have proved their competence by using such methods as flight simulation, mathematical modeling, and operational research, which have helped to reduce flight hours and costs. An applicant may use methods other than those specified in AC's,

provided that the applicant can demonstrate the following:

- The validity and reliability of the testing method
- That the test results verify acceptable applicant performance

**NOTE: Actual flights may not be required when an applicant can demonstrate competence and compliance with appropriate regulations without conducting a flight.**

**1559. HANDBOOK DISCUSSION OF PROVING AND VALIDATION TESTS.** Sections 3 through 7 of this chapter contain direction and guidance to be used by inspectors for conducting proving tests, and section 8 contains direction and guidance for conducting validation tests. Figure 3.9.2.1. contains a job aid to be used by inspectors for planning proving and validation tests.

**1560.-1564. RESERVED.**

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